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Montana Department of Environmental Quality
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Newsletter March 1997

Scoping Process Update...

Stillwater Mine Proposed Tailings Impoundment Project and Waste Management Plan

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The Department of Environmental Quality (DEQ) and the Custer National Forest (CNF) are submitting this scoping report to the public summarizing the written and verbal comments received on the Stillwater Mining Company's (SMC) proposed waste management plan. This plan includes the development of a new tailings impoundment on the old Hertzler Ranch property. A summary of the issues developed from those comments is included in this newsletter, as well as a tentative schedule for completing the environmental impact statement (EIS). A synopsis of the comments received at the September 24, 1996, public scoping meeting in Absarokee, Montana, and a list of attendees is included in this report. A list of people who submitted written comments is also included.

Public participation has been a crucial component in defining the scope of this environmental analysis in accordance with applicable state and federal laws and regulations, and state and Forest Service policies.

Public Involvement

Public participation has been a crucial component in defining the scope of this environmental analysis in accordance with applicable state and federal laws and regulations, and state and Forest Service policies. Public involvement has been continuous throughout the analysis of this proposed project.

The public was first informed of the proposed action when DEQ and CNF mailed the project's *Scoping Document* to potentially interested or affected persons on August 27, 1996. This document invited public participation during EIS development and requested scoping comments by October 31, 1996.

News articles appeared in local and regional newspapers during the week of September 1, 1996, concerning SMC's proposal to construct and operate a new tailings impoundment facility and waste-stream pipeline system, and expand waste rock storage on the east side of the Stillwater River. The regulatory agencies (DEQ and CNF) held a public meeting regarding the proposed action in Absarokee on September 24, 1996. A Notice of Intent to prepare an EIS was published in the *Federal Register* on September 19, 1996, to provide national interests an opportunity to participate during the analysis process.

As a result of the September 24 meeting held in Absarokee, SMC offered to host public field trips in order to provide additional

information to interested individuals. These field trips, held November 14 and 15, 1996, were attended by 50 individuals (see attendees list on page 11).

Issue Identification

Public response to SMC's proposal includes 52 letters, approximately 20 phone calls, numerous comments, and about six personal visits to the Beartooth Ranger District office in Red Lodge. After analyzing the comments, the Agencies identified 11 substantive issues. Of the 11 issues identified, three (**Water Quality and Quantity**, **Tailings Impoundment Stability**, and **Reclamation**) are tentatively considered "driving issues." A "driving issue" is one which is used in developing alternatives to the proposed action. The remaining eight issues (Wildlife, Fisheries, Air Quality, Aesthetics, Social/ Economics, Human Health and Safety, Transportation, and Utilities) were not considered driving issues but will be addressed in the environmental analysis.

Issue Statements

Issue statements have been developed to provide an understandable and measurable estimate of potential environmental consequences likely to occur if the proposed action or an alternative was permitted and implemented. The intent of the following issue statements is to clearly identify biological, physical, social, and/or economic resources that might be affected if one of the alternatives analyzed in this EIS is permitted and implemented.

Water Quality and Quantity. Implementation of SMC's proposed plans for long-term waste management might change the existing water quality and quantity around the existing and proposed new waste management facilities. These changes could result from proposed increases in the development of the sub-surface ore body. The current sediment load, chemical constituency, and function of area waters might be affected by construction and operation of the pipeline system adjacent to the Stillwater River, increased Land Application Disposal for waste water nitrates, pipeline construction crossing the West Fork of the Stillwater River, and construction and operation of the new tailings impoundment approximately 7 miles north of the current mine. Environmental effects will be estimated through modeling of sediment loads and water chemistry changes, past experiences and monitoring results collected since the mine began operating, and professional interpretation of site-specific conditions. Potential environmental consequences will be estimated for both surface and sub-surface water in the potentially affected areas.

Wildlife. Mule deer populations in the Stillwater Valley have declined significantly since 1991. The number of fawns born during the spring of 1996 was the lowest on record, suggesting that further declines are imminent. The area surrounding the proposed waste rock storage facility and tailings impoundment currently serves as important winter and spring range for mule deer. "Some mule deer within this seasonal population spend summers in Yellowstone National Park. Therefore, this mule deer population could have national significance" (MT Fish, Wildlife, and Parks, September 17, 1996, letter to Rand Herzberg, Custer National Forest).

To a lesser degree, the proposed changes by SMC could affect white-tailed deer and mountain lions that occupy the project area, the area between and including the existing mine and the proposed impoundment site. The project area may also contain threatened, endangered, sensitive or management indicator species.

Effects to wildlife will be estimated through identification of the type and location of existing wildlife uses within the potentially affected habitats. Site-specific data collection, modeling, and professional interpretation will also be used.

Fisheries. SMC proposes to construct and operate 5 miles of pipeline adjacent to the Stillwater River and across the West Fork of the Stillwater River. The proposed tailings impoundment would be approximately 0.25 mile linear distance from the Stillwater River. The down-gradient distance from the tailings impoundment to the Stillwater River would be approximately 0.5 mile. Concerns related to the introduction of sediment and chemicals have been identified by the public. Currently, water from the Stillwater River provides high-quality habitat for trout in both the Stillwater and Yellowstone rivers. Effects on fish will be estimated on the basis of data contained in the water quality and quantity section of the EIS and professional interpretation of site-specific conditions.

Air Quality. Air surrounding SMC's proposed tailings impoundment location currently is clean with low levels of particulates and odors. Particulate monitoring (PM-10) in the area of SMC's mining facilities south of Nye has not indicated any infraction of state air quality standards. Implementation of SMC's proposed impoundment and waste rock storage will increase the amount of ground disturbance and traffic in the project area, which could also increase dust and chemical particulates in the project area. Environmental effects will be estimated through comparison of existing air quality conditions with conditions predicted by a computer model for the different alternatives.

Social/Economics. Many of the residents in the area adjacent to SMC's existing and proposed facilities have been drawn there because of the "high quality of life" afforded individuals in this mountainous setting. These individuals perceive the area to have a rural, quiet, non-industrial, and unhurried pace. Implementation of this project could change social and economic factors associated with this "high quality of life." For example, increased numbers of people may be hired and choose to live in the area. Increased demands to Stillwater County infrastructure may result if local population increases. As a result, residents could experience a change in property values, taxation, housing costs, and the overall cost of living. Potential social and economic effects will be estimated by comparison with data from the existing Hardrock Impact Plan.

Tailings Impoundment Stability. SMC proposes to use construction material consisting largely of glacial debris including boulders, cobbles, sand, gravel and large amounts of fine clay to build a new tailings impoundment approximately 7 miles north of existing mine and milling facilities. Many comments received during scoping related to the use of this material for impoundment construction. Site-specific engineering studies and field data will be used to determine the suitability of this glacial material for construction. Engineers from the Forest Service and DEQ and the third-party contractor will review construction plans for the proposed action and alternatives for adequacy.

Aesthetics. The area surrounding SMC's proposed impoundment location currently is characterized by primarily natural conditions. Approval of this proposal would increase traffic, industrial activities, and refuse, as pointed out in many scoping comments. The severity of these impacts will be estimated on the basis of past experience with construction and operation of this type of impoundment.

Transportation. SMC's proposal includes construction of a pipeline corridor with several pipelines along the roads (FAS 419 and 420) between the proposed tailings impoundment site near Nye and the existing mine and mill. Implementation of this action might disrupt traffic flow on these roads. Changes in traffic flow patterns will be determined for each alternative based on data from the Montana Department of Transportation.

Human Health and Safety. Under SMC's proposal, the new tailings impoundment would be operated in conjunction with the existing tailings impoundment. People commenting on the proposed action were concerned about the possible escape of chemical constituents in tailings impoundment waters. They were also concerned about possible negative effects of breathing or coming in contact with such constituents. Potential effects will be analyzed with data from the Montana Department of Public Health and Human Services data and professional literature review.

Reclamation. Approximately 271 acres of new disturbance will result if SMC's proposal is approved. Many commentors doubted SMC's ability to reclaim disturbed areas to required levels of stability and utility. Reclamation potential will be determined by comparing soil data such as productivity, depth, structure, and location with planned disturbance size, slopes, and location. State reclamation standards will be addressed.

Utilities. Implementation of the proposal may require an additional 12 megawatts of electrical power currently available from Montana Power Company. Development of the proposed impoundment would include a 1-mile extension of the existing three-phase power line from a point near the junction of Stillwater County roads 419 and 420. This extension would provide approximately 500 horsepower for operation of the new impoundment site. Utility-related disturbances are a concern to the public. Environmental consequences will be estimated by examining the effects of other power lines of similar size.

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EIS Status

DEQ has determined that a third-party contractor will be hired to help the Agencies prepare the draft EIS. A request for proposal is being sent out to qualified consultants. The Agencies propose to have the contractor selected and under contract by May 1, 1997.

The draft EIS is tentatively scheduled for release in mid-March 1998. A public hearing would be held in Absarokee after publication during the public comment period on the draft EIS. The final EIS would be finalized approximately mid-September 1998.

If you have any questions, please contact the agency staff listed below:

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Stillwater Mining Company Public Scoping Meeting Summary

September 24, 1996

The following comments were gathered at the public scoping meeting held in Absarokee, Montana, to identify issues and concerns. Scoping is required by the National Environmental Policy Act (NEPA) of 1969 and the Montana Environmental Policy Act (MEPA).

Transportation:

- What is the current width of the County Right-of-Way (ROW) along FAS 419 and FAS 420? How much of this ROW width will be occupied by the proposed pipeline corridor from the current mine location to the proposed tailings impoundment location?
- What will the presence of this pipeline corridor/ installation mean to any future road construction (possible widening and paving) that may take place along FAS 419?
- Will any future pipeline repairs block or in any way impede public use of the existing road?
- It is anticipated that the increased volume of traffic using area roads will increase the rate and level of degradation on those roads. How will this be addressed?

Social/Economics:

- What will be the effects to tourist-based business in the upper Stillwater due to increased use of the area by heavy industry?
- What will be the effects to adjacent private property values as a result of construction and operation of all components of the proposed action, including the proposed tailings impoundment, the pipeline corridor and the east side waste rock storage?
- Is there a possibility of financial compensation to adjacent private land owners if private property is devalued due to implementation of the proposed action?
- The increased numbers of individuals working at the mine as a result of this proposal will increase pressure on existing infrastructure. Who pays the cost for upgrades to overburdened infrastructure?
- Increased numbers of new residents will be coming into the area. Will this increase the crime rate?
- What types of employment and how many jobs of each type will be created by SMC's proposed expansion? Will these be seasonal or permanent jobs?
- Why hasn't the mine been required to provide housing for employees? If more people are hired, will housing be provided? Where will those construction workers (contractors) and the extra miners be housed?
- Can the EIS quantify and identify the increase or decrease in potential trespassing to gain fishing access as anglers move farther downstream away from the tailings impoundment?

Lifestyle/Quality of Life (sub-issue of Social/ Economics):

- The increase in "heavy industry" will have detrimental effects on the lifestyles that have long been part of the upper Stillwater Valley (agricultural, ranching, retirement housing, etc.).
- Additional human stress will be caused by the introduction of heavy industry in an area where none exists.
- A study of SMC's effects and how it has degraded the way of life should be included. The study should cover aesthetics, traffic (number of vehicles, construction trucks), and breakup of the roads that were designed as farm roads to the market and not for heavy equipment.
- The analysis should be discussed and disclosed in a qualitative rather than a quantitative fashion in the Social-Economics Issue area.

Human Health and Safety:

- Human health could be threatened by pipeline leaks, construction and operation of the proposed tailings expansion, and the possibility of future expansion for which plans have not been yet disclosed.
- How would human consumption and use of ground water be affected by increased nitrates and heavy metals?
- How will the Agencies assess physical damage and human health impacts from airborne particles and chemicals?
- What would be the effects to humans from breathing air with increased amounts of particulates, nitrates, and/or heavy metals? What mitigations are proposed?

Aesthetics:

Noise (sub-issue of Aesthetics):

- What is the current level of ambient background noise (decibels) in the areas surrounding the current mill location, pipeline corridor, proposed tailings impoundment location, and especially the east side of the Stillwater River? What are the timeframes associated with construction and reclamation of this facility?
- What additional noise levels will result as a result of proposal implementation in locations such as the current mill location, pipeline corridor, new impoundment location, and especially the east side operations.

Visuals (sub-issue of Aesthetics):

- What will the East Side Waste Rock storage facility look like during the various phases of construction? What will it look like at final reclamation? This should be evaluated from various viewpoints, especially Dean, Montana.
- The draft EIS should contain many computer-enhanced photos of the area - they should show the area now and at various intervals into the future.
- The current level of operations at the mill/mine/tailings impoundment is generating trash and debris that leaves the SMC property during windy times. This situation may get worse if increased operational activities are approved.

Air Quality:

- What levels of additional fugitive dust are likely to be released as a result of project implementation? What would be the chemical composition of dust or any particulate which would emanate from the tailings pond water? Could particulates from the tailings water be liberated as a result of evaporation?
- Is there any possibility that fugitive dust which is or would be generated at SMC's operation at either the current mine facility or the proposed expansion could contain heavy metals, nitrates, or any toxic or hazardous material?

Water Quality:

- Need to ensure that no degradation of either surface and sub-surface water results from implementation of the proposed action.
- The area surrounding the proposed tailings impoundment location is thought to have a shallow water table and a sloping (dipping) impervious shale layer. Any contaminants released from SMC's operation might be directed into surface waters of the Stillwater River.
- Are the water quality and quantity tests which were conducted during the summer of 1996 intended to reflect long-term trends? This was a very dry and hot summer. Conclusions should not be based on data developed solely during this hot dry summer. Was this summer a 100-year exception?
- What effects to subsurface water quality and quantity will the increased production level from 2000 to 5000 tons per day have?
- The rationale for using a 60-mil HDPE liner versus a 100-mil liner under the impoundment was based on the differences in wind velocity between

the existing and proposed tailings impoundment sites. Explain why the thinner liner is suitable for the proposed impoundment.

- What is the longevity of the HDPE liner? What will happen if/when the liner starts breaking down? What QA/QC (quality assurance/quality control) measures are in place for liner installation?

- In how many places will the pipeline cross the West Fork of the Stillwater River? How will this affect the river channel and what permits would be required? What is the method that will be used to cross the West Fork of the Stillwater - open cut, jack, drill? If open cut, how do they plan to maintain the quality and integrity of the river?

- How could an earthquake or other natural catastrophe affect the pipeline? Could it rupture and discharge in the West Fork or the main fork of the Stillwater River? How would that effect water quality, fisheries habitat, and downstream water users?

- What will be the impacts to ground water below the tailings impoundment? Will down- gradient private wells be affected?

- What will be the increase in nitrate and "salts" levels in mine discharge to both surface and ground water? SMC proposes to use Land Application Disposal (LAD) in the area adjacent to the tailings impoundment. If this practice continues for 30 years, considering that the adit water is slightly basic (pH>7.0) and the soils are basic, is there potential to create a "saline seep" situation?

- Will seepage from the proposed tailings impoundment enter the river and downgradient water wells? How will these be monitored and what is the proposed mitigation?

- What is going to happen to the underground aquifers when disturbed by increased mining?

- What does SMC propose as a treatment for increased constituents (for example, nitrates) prior to discharge?

- What aquatic indicator species will be monitored to assess the health of the receiving stream?

Noxious Weeds:

- How will noxious weeds be controlled?

- What is the noxious weed plan?

Wildlife:

- Various species of aquatic birds (such as ducks) have used the irrigation pond at the former Hertzler Ranch. Could the water in the tailings impoundment be toxic/ fatal to waterfowl? If so, what mitigations are in place to keep birds and animals out of it? What will the effect to these species be due to construction and operation of the tailings impoundment?

- How will animals be kept out of the tailings impoundment? Have any animals gotten into the current impoundment and died?

- The proposed impoundment location is heavily used by wintering mule deer. If the proposed facilities are built, what will be the effects to the wintering mule deer population?

Fisheries:

- What is the current population of trout in the area of the Stillwater River in the area adjacent to the proposed tailings impoundment location? What is the distribution of size classes and species? How does this information compare to historic data? How will SMC's proposed action affect these species and size class distributions?

- What aquatic indicator species (macro-invertebrates) will be monitored to assess the health of the receiving streams?

Cultural Concerns:

- There is a buffalo jump in the area of the impoundment. What will be done to preserve the site? There needs to be a thorough and overall search and review of archeological sites in the area. Will a

sampling be done? Will there be a thorough investigation?

Alternative Suggestions:

- Other possible locations, such as the Boulder Valley, should be explored for the tailings impoundment location. A minimum of a 90-mile radius from the current mill site should be explored for other possible locations.

- Other possible alternative sites for tailings impoundment storage include Nye Basin, Mountain View Mine, and the old Benbow Mine.

Bonding and Reclamation:

- How do the agencies determine when an area is 100-percent reclaimed? What criteria are used to determine reclamation success? What is the proposed seed mix?

- What contingencies will be bonded? Will any potential clean-up costs related to the Stillwater River be included in the bond calculation?

- What is the cost to SMC per year for the surety bond?

Operations:

- Will the pipelines, which are proposed for installation, be left in the ground at final reclamation, or will they be pulled? Would the cost of pipeline removal be covered in the project reclamation bond calculations?

- Pipeline integrity might be affected by human error or vandalism.

- How many gallons are in the slurry line at any given time? When flushing the line (during an emergency), how many gallons are going to be in the emergency containment pond? What is or will be the effect on the land and ground water when that happens? Will the slurry line be operated 24 hrs/day? 365 days/ year?

- Can there be a cap on the ore production to keep the mine in production for a longer amount of time?

- Will anything that will be pumped through these lines be hazardous (or could be classified as hazardous in the future)?

- Will the pipelines be subject to external corrosion? Are there plans to control the inducer currents which may build up on these pipelines?

- Are there specifications on the pipes returning to the mine (return water line), and if so, what are they?

Other Comments:

- How can the public challenge the selected tailings impoundment location? (administratively? and legally?)

- What is the worse-case scenario that could happen at the mine facilities due to implementation of this proposal? What would be the result?

- What mechanism is in-place for the public to get access to all data identified in the EIS for tracking/ monitoring short of driving to Helena? Can this information be made available for the public closer to the mine?

Stillwater Mine Proposed Tailings Impoundment Project and Waste Management Plan

Public Attendance at Scoping Meeting September 24, 1996

Clayr Alexander
John Andrews
Carmen Bardelmeier
Cliff Bare
Don Bedard
Jeanne Bender
David Berkeley
Harold Blattie
Arleen Boyd
Dan Brady
Alan Buell
Lewis Cluett
Henry Connor
J.E. Coulter
Andrew de Garmo
Pieter & Michele DeGroat
Pony & Mary Ellen Duke
Chuck Egan
Bill Ehcouzol
Ennis Geraghty
Kery Givens
Beverly Hall
Randy Harmon
Kendell & Tom Harris
Joe Hayes
Jack Hegneman
Donna F. Hjelurk
Gregg Hodges
Katherine Hoffmann
Clair Johnson
Randy & Brenda Johnson
Noel Keogh
Tom Kitcher
Lawrence Klee
Robert D. Lee
Bob & Jeanine Lee
Betty Lindsay
Keith E. Martin
Grady & Kathy Martin
Tom McLean
T.J. McNeill
R.A. Mikelson
Jim Milligan
Lucille & George Moses
Jane Moses
Evelyn Nighbert
Wayne Pearson
Dell Powell
Bob Redman
Brett Redman
Alvin Rich
Jim Richter
J.R., Jack & Millie Riedesel
Jean and Patrick Rollwitz
George & Marge Rossetter
Jeff Sargent
Jack & Paula Shemer
Ray M. Shenk
Don Sherman
Clara E. Smith
Bob & Shirley Stafford
Joanne & Jerry Sternad
Charles & Charlette Stral
John E. & Bonnie Thompson
Gina Wilson
Jane Yantis
Bruce and Theo Yanzich

Stillwater Mine Proposed Tailings Impoundment Project and Waste Management Plan

Submitters of Written Scoping Comments August 27 - October 31, 1996

Jennifer Ferenstein, Alliance for the Wild Rockies

Heather Bender

Sharon M. Christensen

Henry Conner

Ellen Doely

Mary Donohoe

Berkeley R. Down

John Stanton, The Ecology Center

John F. Wardell, EPA

Douglas T. Ezell, MD

Lynn, Benjamin, & Laura Glenn

Jean-Marie Souvigney, Greater Yellowstone Coalition

Mary Lou Halstead

Joseph E. Heigis

Dennis E. & Katherine M. Hoffmann

Robert A. Howard

Clark & Aylett Irving

Georgina & Richard Jahner

David J. McGough

Brian McHugh

Jim Milligan

Lucile & George Moses

Dick Ellis, MT Fish Wildlife & Parks

Richard A. & Joanne C. Nauman

Debra Beaver, Northern Plains Resource Council

John R. & Mildred C. Reidesel

Patrick & Jean Rolliwitz

Sigrid Schramm

William F. Schramm

Jack E. & Paula M. Shemer

Rachel Thomas

Dr. Bob & Marlene Whiting

Jim Wilson

Peter & Inga Winge

Paul L. Hickman, Yellowstone Valley Audubon Society

Stillwater Mine Proposed Tailings Impoundment Project and Waste Management Plan

Stillwater Mining Co. Field Trip Attendees November 14-15, 1996

Ann Baken

Cliff Bare, Stillwater Co. Commissioner

Carol Bass

John Boudrey, Stillwater Co. Commissioner

Arleen Boyd

Henry Connor

Judith Degele

Andrew de Garmo

Chuck Egan

Steve Potts, EPA

Mindy Gauthier

Bob Graham

Kent Harris

Joseph E. Heigis

Mikol Hjelvik

Wilber Holmes

Lynne & Darrel Jensen

Sarah & Don Johnson

Vern & Averill Keller

Noel Keogh

James Knopp

Janice & Floyd Koch

Kathryn Langston

Robert & Jeanine Lee

Dale Lunder

Daniel L. Luoma

Harvey Madison

A. Ray McPhail

Joanne C. & Richard A. Nauman

Al & Mary Pfinning

Marge Rossetter

Jack & Paula Shemer

Bob & Shirley Stafford

Jerry Sternod

June Trees

Bob & Marlene Whiting

Frank Willett

Joan & Nick Wipples

Sarah Yoder

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300 copies of this public document were published at an estimated cost of $.92 per copy, for a total of $276.00 which includes $.37 each for printing and $.55 each for distribution. Costs for printing and distributing this document are covered by Stillwater Mining Company.

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